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The Role of Fear of Failure in Competitive Anxiety and the Mediating Role of 2 x 2 Achievement Goals in Female High School and Collegiate Runners

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THE ROLE OF FEAR OF FAILURE IN COMPETITIVE ANXIETY AND THE MEDIATING ROLE OF 2 x 2 ACHIEVEMENT GOALS IN FEMALE HIGH SCHOOL AND COLLEGIATE RUNNERS

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CERTIFICATE OF APPROVAL

MASTER OF SCIENCE THESIS

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ABSTRACT

The purpose of this study was to (a) examine the role of general FF on competitive anxiety and (b) determine if achievement goals mediated the relationship between general FF and anxiety. The participants for the study included 77 female athletes $N_{College}$ = 60; $N_{HighSchool}$ = 17). Participants completed a questionnaire packet containing the Competitive State Anxiety Inventory-2 (CSAI-2; Martens, Vealey, & Burton, 1990), the Achievement Goal Questionnaire for Sport (AGQ-S; Conroy, Elliot, & Hofer, 2003) and the Performance Failure Appraisal Inventory (PFAI; Conroy, 2001). A correlational analysis revealed a significant relationship between fear of failure (FF) and the intensity of cognitive anxiety (r = 0.50, p < .01), but a significant relationship did not emerge between FF and the intensity of somatic anxiety. A significant negative correlation was found between FF and the direction of cognitive anxiety (r = -0.35, p < .01). The results for FF and the direction of somatic anxiety did not reveal a significant relationship (r = -0.05, p = 0.69). FF was not related to either the intensity or direction of self-confidence respectively, (r = -0.18, p = 0.15; r = -0.18, p = 0.17). Avoidance achievement goals partially mediated the relationship between FF and anxiety. MAv goals partially mediated the relationship between FF and the intensity and direction of cognitive anxiety. PAv goals partially mediated the relationship between FF and the intensity of cognitive anxiety. The findings highlight the importance of examining multiple factors that contribute to competitive anxiety.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Running has become a popular form of exercise due to the individual nature of the sport and the flexibility within the sport to compete at any age or level. To be successful in the sport requires year round dedication and commitment. Many runners have the opportunity to start competing once they enter into middle school or high school. If the individual decides to pursue a collegiate running career, then the demands of training become more intense depending on the division of competition. Lane, Terry, and Karageorghis (1995) found that increases in level of difficulty increased anxiety and reduced self-confidence. Due to the ongoing competitive nature of running, it is essential for athletes to be able to handle the pressures associated with competition.

The pressures of competition can lead to pre-competitive anxiety for some athletes. Cross country runners have to be able to control their anxiety for the duration of their race, whereas track and field athletes have an ebb and flow of anxiety throughout the duration of a meet. Track and field athletes may compete in as many as four events in a track meet so they have to be in control of their anxiety before, during, and after the event to increase their chances of having an optimal performance. The first step in learning how to control competitive anxiety is to define and measure this ambiguous construct.

Anxiety and stress are often used interchangeably in the literature; however, it is important to distinguish between these two concepts. Although the concept of stress is difficult to define, McGrath (1970) defined it as the process that involves a substantial imbalance between environmental demand and response capabilities. Failure to meet these demands is perceived as having important consequences. The body then responds

with increased levels of cognitive and somatic anxiety. In other words, when an individual is not prepared and they do not believe they can reach their desired outcome they begin to feel "stressed out". McGrath proposed that stress consisted of four stages: environmental demand, perception of demand, stress response, and behavioral consequences. The physiological stress response in the third stage contributes to the amount of cognitive and somatic anxiety an individual has to manage (McGrath, 1970).

Based on the previous work of Lazarus (1966) and Jones (1990), anxiety can be defined as a combination of negative cognitive thoughts and physiological responses to uncertain appraisals of coping with stressful demands. A more recent textbook definition defines anxiety as "a negative emotional state in which feelings of nervousness, worry, and apprehension are associated with activation or arousal of the body" (Weinberg & Gould 2011, p. 78). Although these definitions provide a basic overview of how anxiety can be defined, they do not address the various types of anxiety.

Spielberger (1966) identified the differences between types of anxiety. State anxiety was defined as an existing or immediate emotional state characterized by apprehension and tension. In contrast, trait anxiety was defined as a predisposition to perceive certain situations as threatening and to respond to these situations with varying levels of state anxiety. Several years later, researchers proposed that anxiety was a multidimensional construct and could be divided into cognitive and somatic components (Martens, Vealey, & Burton, 1990). Cognitive anxiety is considered the mental component of anxiety and is characterized by negative expectations about success or negative self-evaluations (Martens et al., 1990). The affective aspect of anxiety was termed somatic which refers to the physiological responses that result due to autonomic

arousal. This may include increased heart rate, shortness of breath, “butterflies” in the stomach, and tense muscles.

Cognitive and somatic aspects of anxiety are proposed to impact each athlete in a different way. The Multidimensional Theory of Anxiety (Martens et al., 1990) addresses how individual components of anxiety affect athletes. The theory predicts that cognitive anxiety in the form of worry is negatively related to performance, whereas somatic anxiety can facilitate performance up to a certain point, but too much somatic anxiety can cause a decline in performance (Martens et al., 1990). This theory has sparked a considerable amount of research; the results have not been consistent with the predictions of the theory (Hardy, Jones, & Gould, 1996; Mellalieu, Hanton, & Fletcher, 2006). Although performance was not be one of the variables in this current study, the interpretation of anxiety as facilitative or debilitative was examined. By looking at the individual’s levels of anxiety and their interpretation of it practitioners can develop methods of coping that will lead to enhanced performances.

Fear of failure and the individual’s goal orientation are two factors that may play a role in the development and interpretation of pre-competitive anxiety. The classical definition of fear of failure is a motive to avoid failure in evaluative situations based on anticipatory shame upon failure (Atkinson, 1957; McClelland, Atkinson, Clark, & Lowell, 1953). A more contemporary definition as proposed by Conroy and colleagues is the tendency to appraise threat to the achievement of personally meaningful goals when one fails in the performance (Conroy, Willow, & Metzler, 2002). This multidimensional model of fear of failure encompasses five main beliefs that are related to the evaluation of fear. The five lower order fears include: fear of shame and embarrassment, fear of

devaluing one's self estimate, fear of having an uncertain future, fear of important others losing interest, and fear of upsetting important others. Fear of failure has been shown to elicit negative effects in athletes such as negative self-talk (Conroy & Metzler, 2004) and to affect their well-being, behavior, and performance (Lavallee, Sagar, & Spray, 2009). Fear of shame and embarrassment has been linked to increased self-blame, reduced self-affirmation while failing and avoidance achievement goals (MAv and PAv) (Conroy, 2004). Because individuals associate failure with adverse consequences, it is imperative to understand how fear of failure and goal orientations impact levels of precompetitive anxiety.

The direction and intensity of pre-competitive anxiety, which is related to how the athlete feels about the competition prior to the event, can influence the individual outcome of the competition as well as enjoyment of the sport and length of participation in the sport (Grossbard, Smith, Smoll, & Cummings, 2009). Individuals can interpret their anxiety as facilitative or debilitative to performance. Jones (1995) developed a model of facilitative and debilitative anxiety which describes how anxiety arises. Essentially, an individual encounters a stressor that is then interpreted based on the individual's perception of control. If the individual feels that they are in control and can cope with the stressor then they interpret the anxiety as facilitative. Lack of control over the stressor is interpreted as debilitative.

Fear of failure predisposes individuals to adopt particular types of achievement goals. Achievement goals are "concrete cognitive representations that serve a directional function in motivation by guiding the individual toward or away from specific possible outcomes" (Elliot & Thrash, 2001, p. 143). The 2 x 2 achievement goal framework is

comprised of four types of goals: mastery approach goals (MAp) which represents striving to attain task mastery or improvement; mastery avoidance goals (MAv) which represents striving not to fall short of task mastery or striving not to lose one's skills, abilities, or knowledge; performance approach goals (PAp) which represents striving to do better than others; and performance avoidance goal (PAv) which represents striving not to do worse than others (Elliot & Thrash, 2001). Each of the various types of achievement goal outcomes has unique consequences in the realm of athletics. For example, an individual who adopts a PAp may experience higher levels of anxiety due to the amount of pressure they place on themselves to outperform others. To date, a limited number of studies have examined the role of fear of failure and achievement goals in competitive anxiety. One such study found a positive link between fear of failure and all of the goals proposed by the 2 x 2 framework except for mastery approach goals (Elliot & McGregor, 2001). Therefore, the purpose of the present study was to further examine the role of fear of failure in competitive anxiety and investigate the mediating role of achievement goals.

Statement of Purpose

The purpose of the present study was to examine the relationship between fear of failure and competitive anxiety in high school and collegiate cross country and track and field female runners. A second purpose of the study was to investigate the potential mediating effect of achievement goals on anxiety as proposed by the 2 x 2 framework.

Hypotheses

It was hypothesized that female runners who were older and had more experience (based on the number of years they have participated in track and field or cross country)

would have lower cognitive anxiety scores and higher self-confidence scores. Age and years of participation was expected to be a predictor of fear of failure (FF) scores. Approach goal orientations (MAp and PAp) were also expected to be a predictor of FF scores. Due to the increase in difficulty as judged by the amount of time spent competing, distance runners were expected to have higher FF and higher cognitive anxiety scores, and lower self-confidence scores compared to the other event groups.

It was also hypothesized that increases in FF scores would be related to greater amounts of cognitive and somatic anxiety as depicted by the scores on the intensity scale of the CSAI-2. Higher FF scores were also expected to be related to more negative interpretations (i.e., debilitative) of cognitive and somatic anxiety as determined by the scores on the directional scale of the CSAI-2. Individuals with higher FF scores were predicted to have lower levels of self-confidence.

In relation to achievement goals, it was hypothesized that FF would be related to MAv, PAp, and PAv goals, but not MAp. Specifically, fear of shame and embarrassment (FSE) would have a strong connection to avoidance goals (MAv, PAv). Individuals with an avoidance goal orientation were also expected to report higher cognitive and somatic anxiety scores and lower self-confidence scores. In contrast, individuals with an approach orientation were predicted to report lower cognitive and somatic anxiety and higher self-confidence scores.

Achievement goals were expected to mediate the relationship between fear of failure and anxiety. Specifically, MAv, PAv, and PAp, were expected to mediate the relationship between FF and the intensity of cognitive and somatic anxiety and self-confidence. MAv, PAv, and PAp, were expected to partially mediate the relationship

between FF and the direction of cognitive and somatic anxiety.

Assumptions

For the purpose of the current study, it was assumed that the sample was representative of average female cross country and track and field athletes. This study also assumes that the participants have set goals prior to the beginning of the competitive season and experience anxiety as a natural consequence of the competitive environment.

Definition of Terms

The following terms are operationally defined for the purpose of this study:

1. Anxiety – a negative emotional state in which feelings of nervousness, worry, and apprehension are associated with activation or arousal of the body (Weinberg & Gould, 2011).
2. Cognitive anxiety - mental component of anxiety, negative expectations about success or a negative self-evaluation. (Martens et al., 1990)
3. Somatic anxiety - physiological component of anxiety eg. increased heart rate, shortness of breath. (Martens et al., 1990)
4. Pre-competitive Anxiety – how the athlete feels about the competition prior to the event (Weinberg & Gould, 2011)
5. Fear of Failure - tendency to appraise threat to the achievement of personally meaningful goals when one fails in the performance (Conroy et. al., 2002).
6. Avoidance goals – focus on avoiding a negative, undesirable possibility (Elliot & Thrash, 2001)
7. Approach Goals – focus on attaining a positive, desirable possibility (Elliot & Thrash, 2001)

Delimitations

The delimitations include:

1. The study only included female cross country and track and field athletes at the high school and Division I level respectively.
2. Both teams were from the same geographic area.

Limitations

The following limitations apply to the current study:

1. The results are only applicable to female runners at the high school and Division I level and no other levels, ages, or male athletes.
2. Small sample size may limit the generalizability of results.
3. This study only looked at cross country and track and field athletes so generalizability to other sports is low.

CHAPTER 2

REVIEW OF LITERATURE

The present study aimed to determine how fear of failure related to competitive anxiety and whether or not achievement goals were a factor in this relationship. Few research studies have examined anxiety from an achievement motivation standpoint therefore the following review was focused on the 2 x 2 achievement goal framework as well as the construct of fear of failure and the potential role it plays in competitive anxiety. Various studies were highlighted that examine these variables starting with a general overview of anxiety, then a specific look at fear of failure, followed by outcomes and consequences of adopting one of the four achievement goal orientations. By determining how these concepts relate, practitioners can develop effective psychological skills training programs that can enhance individual athletic performances.

Stress

In competition, runners have to be able to deal with multiple stressors. A stressor could be anything from forgetting their lucky socks to having a bad day at practice the day before or even not sleeping well the night before the race. The stressor can elicit a host of physiological and psychological responses such as increased heart rate, rapid breathing, decreased levels of self-confidence, and lack of motivation and focus. Researchers have examined the differences in chronic vs. acute stressors and how they influence an individual's coping style. Examples of chronic stress include the effects of not playing well, social evaluation, losing, parental pressure, not having fun, trying to perform up to personal standards, difficult plays, and poor weather conditions (Goyen & Anshel, 1998). Acute stressors include but are not limited to, making performance or

mental errors, receiving a penalty from the game official, coach reprimands, unpleasant input from others, and the opponent's success (Goyen & Anshel, 1998).

In a study conducted with Chinese athletes, researchers found five main sources of competitive stress (Gan, Anshel, & Kim, 2009). These sources included verbal abuse from others (e.g., "Spectators were against my team"), officiating (e.g., "Referee call against me was unfair"), coach dissatisfaction (e.g., "Coach reprimanded me in public"), environmental sources (e.g., "Poor weather hurt my performance"), and losing (e.g., "Opponent's success"). These five sources were significant predictors of coping styles for the athletes (Gan et al., 2009). Based on the work of Compas (1987) and Rawthorne, Anshel, and Caputi (2000), coping styles were defined as methods that reflect how an individual manages anxiety as characterized by their response to the stressor. Coping styles should be relatively stable across time whereas the individual's coping strategies may change depending on how the individual deals with anxiety in a particular situation.

Regardless of the type of stressor, the individual's response to stress is critical. The stressor can cause the individual to experience greater levels of anxiety which can facilitate or debilitate their performance (Jones, 1995). Their perception of control over the situation and their ability to reach their goals contributes to their overall level of cognitive and somatic anxiety (Jones, 1995).

Anxiety

What is Anxiety and Where Does it Come From? Due to the ambiguous nature of stress and anxiety they have become difficult constructs to define. Lazarus (1966) and Jones (1990) agree that anxiety can be defined as a combination of negative cognitive responses and physiological responses to uncertain appraisals of coping with stressful

demands. Although this definition provides a general overview of anxiety, it does not address the more recent approach of breaking down anxiety into different components. The Multidimensional Theory of Anxiety (Martens et al., 1990) breaks anxiety down into two distinct concepts: cognitive anxiety and somatic anxiety. Cognitive anxiety is defined as a negative expectation and addresses the concerns an individual has about performing. Somatic anxiety is defined by the bodily symptoms of feelings associated with stress, such as nervousness, tension, or even excitement (Wiggins, 1998). In comparison, competition anxiety has been defined as "an individual's tendency to perceive competitive situations as threatening and respond to these situations with state anxiety" (Martens et al., 1990, p. 11). A variety of factors can influence pre-competitive anxiety. For a group of intercollegiate middle distance runners, pre-competitive cognitive anxiety was significantly predicted by perceived readiness, attitude toward previous performance, and position goal (Jones, 1990). The source of anxiety and how it relates to the pre-competitive state of the athlete is important for gaining insight into the relationship between anxiety and performance.

Multidimensional Theory of Anxiety. The Multidimensional Theory of Anxiety (MTA) proposes that cognitive anxiety has a negative linear relationship with performance, somatic anxiety has an inverted-U shaped relationship with performance and self-confidence has a positive linear relationship with performance (Martens et al., 1990). In other words, if an individual thinks about their performance too much they will start to feel anxious and their body's response to their anxiety can either help or hinder their performance. If the athlete believes in themselves then they may be able to overcome their anxiety and have a good performance. MTA states that any change in the

perceived symptoms of anxiety preceding a competitive event, operationally defined as temporal patterns, may have a significant impact on performance (Wiggins, 1998). Temporal patterns are identified by measuring an athlete's level of anxiety three to five times prior to a competition. Symptoms associated with competitive anxiety experienced earlier in the temporal period are perceived as facilitative and preparatory for performance, whereas symptoms experienced directly before competition are viewed as more debilitative (Wiggins, 1998).

MTA predicts that cognitive state anxiety has a more consistent and stronger impact on performance than somatic state anxiety. Cognitive state anxiety and state self-confidence are linked to expectancy of success and social evaluation, which continues to affect performance throughout the contest (Jones, 1995). Somatic anxiety is a result of the environmental stimuli associated with competition; it abruptly increases at the onset of performance and dissipates upon commencement of the competition (Hanton, Mellalieu, & Young, 2002). Although the third dimension of MTA self-confidence, is not a direct measure of anxiety, research suggests that a decrease in self-confidence may lead to a greater experience of cognitive anxiety (Martens et al., 1990, Krane & Williams, 1987).

Cognitive anxiety and self-confidence are predicted by an athlete's performance expectations and the perception of their ability (Jones, 1995). Martens and colleagues (1990) found that participants in individual sports displayed significantly higher cognitive and somatic state anxiety and lower state self-confidence scores than team sport athletes. Therefore, individual sport athletes may have higher performance expectations and perceive their ability to perform to meet those expectations as low. As a result, individual

sport athletes such as runners, cyclists, and swimmers have been the primary focus group to test the predictions of multidimensional theory of anxiety.

In a study examining athletes who were competing in the Ironman competition, researchers sought out to investigate whether anxiety has a major debilitating effect on the performance of endurance athletes (Hammermeister & Burton, 1995). The participants were comprised of 293 endurance athletes including 181 male and 112 female performers. Out of all the participants, 167 were triathletes, 65 distance runners, and 61 cyclists. Participants filled out a background questionnaire, the CSAI-2, and a post-race questionnaire. The results showed that the triathletes were more cognitively anxious than their single sport or half Ironman counterparts. Triathletes also reported higher physical anxiety than did athletes in other endurance sports. Pre-competitive cognitive anxiety was more consistently and strongly related to performance than was somatic anxiety in this investigation, but none of the correlations reached statistical significance (Hammermeister & Burton, 1995). Thus, the results did not support the anxiety performance relationship. Therefore, it is necessary to further examine the predictions of MTA and see if other factors contribute to an athlete's levels of anxiety before a competition.

Temporal Patterning of Anxiety. The time leading up to the competition can affect cognitive and somatic anxiety and self-confidence. Researchers have started to investigate the temporal patterning of pre-competitive anxiety. To identify temporal patterns, anxiety is measured two days, one day, two hours, and ideally one hour before a competition. Hanton, Mellalieu, and Young (2002) conducted a qualitative investigation of the temporal patterning of pre-competitive anxiety in elite athletes and found that

cognitive anxiety and self-confidence were predicted by the athlete's performance expectations and perceptions of ability. Interviews were conducted to find out information about the performers perceptions of the mechanisms by which intensity, frequency, and direction of symptoms associated with competitive anxiety interacted in the build up to competition and the subsequent effect upon preparation for performance. The main section of the interview was made up of questions related to the athlete's thoughts and feelings at different times before the most recent major competition, and the effects of these symptoms on preparation for their next performance (Hanton et al., 2002). The participants were then asked to explain why perceived control and directional interpretations were positive or negative and how these issues influenced preparation for performance.

Based on the six causal networks that were conducted in the data analysis, individuals with high self-confidence focused only on positive thoughts and feelings whereas athletes with low self-confidence focused on negative thoughts and feelings, had poor performance preparation, and experienced increased worry and self-doubt (Hanton et al., 2002).The authors suggested that mental rehearsal and cognitive restructuring techniques could be used to help the performer to focus on positive thoughts and ignore or reduce any negative symptoms experienced. Performance expectations and perception of ability also predicted the intensity of cognitive anxiety; however, as long as their expectations remained stable then the intensity of their cognitive anxiety did not change (Hanton et al., 2002).

Overall, any increase in precompetitive anxiety combined with low self-confidence resulted in a loss of perceptions of control, problems with focus and

concentration, and was viewed as debilitating or harmful to preparation for the competition. Perceived control and self-confidence were found to moderate the interpretation of competitive symptoms through the use of cognitive confidence management strategies, which protected against debilitative interpretations of anxiety (Hanton et al., 2002). In order to maintain their level of confidence, athletes reported using cognitive strategies such as thought stopping, positive self-talk, and mental rehearsal. Cognitive strategies can cause a shift in the individual's interpretation of anxiety which is normally facilitative or debilitative to performance.

Interpretation of Anxiety. Besides the temporal patterning of precompetitive anxiety, researchers have also examined the direction and interpretation of anxiety and whether it is facilitative or debilitative. Directional perceptions refer to how individuals interpret the intensity of anxiety experienced before competition and whether it facilitates or debilitates performance (Jones & Hanton, 2001). In a study with competitive swimmers, Jones and Hanton (2001) assessed feeling states experienced by performers before competition and the relationship with the interpreted cognitive and perceived physiological symptoms. It was hypothesized that performers who interpreted symptoms associated with anxiety as facilitative would identify more positive and less negative feeling state labels than those who perceived these symptoms as debilitating towards performance. Feeling states were defined as "those human experiences that include bodily reactions, cognitive appraisals, actual or potential instrumental responses, or some combination thereof" (Gauvin & Spence, 1998, p. 326). "Anxious" was the most frequent negative feeling state reported by both the facilitative and debilitative groups. Jones and Hanton (2001) suggested that many of the performers in the facilitative group interpreted

pre-performance thoughts and feelings as facilitative of performance, while simultaneously experiencing a state of anxiety deemed to be negative. This implies that an athlete may be excited to perform and have positive thoughts about their competition, but may still be experiencing the physiological symptoms of anxiety. In regards to self-confidence, the participants who had a more facilitative interpretation of anxiety reported significantly greater intensities of self-confidence, which supports the notion that self-confidence is a moderating factor in the interpretation of precompetitive symptoms.

Hardy (1990) suggested that self-confidence moderated the effects of cognitive and somatic anxiety and physiological arousal upon performance by enabling cognitively anxious performers to tolerate a greater amount of arousal before experiencing a decrease in performance. Therefore, it is possible for athletes who experience a great amount of anxiety to perform at a high level if they have high self-confidence. In contrast, performers who experience high anxiety without the accompanying feelings of confidence may suffer performance decrements (Hardy, 1990). Precompetitive anxiety and self-confidence can be triggered by standards that the athlete sets for him or herself. In a study with high school varsity athletes, Wiggins (1998) found that neither cognitive nor somatic anxiety intensity showed any relationship with the athlete's expectations of performance. Performance expectations were found to be stable in the participants prior to competition with no clear relationship emerging with cognitive anxiety. Performance expectations did not seem to be significantly influenced by changes in anxiety intensity preceding a competition. The findings also indicated that the appraisal of anxiety as facilitative or debilitative did not change leading up the competition. This study's authors

implied that performance expectations may be more dependent on individual expectations rather than the intensity of anxiety symptoms.

To further investigate the relationships with anxiety and performance Woodman and Hardy (2003) conducted a meta-analysis. The aim of the analysis was threefold: (1) to examine the fundamental predictions of multidimensional anxiety theory (cognitive anxiety has a negative relationship with performance and that self-confidence has a positive relationship with performance), (2) to examine the relative magnitude of the cognitive anxiety and self-confidence effect sizes (3) to examine the moderating variables in the relationships between cognitive anxiety and performance and between self - confidence and performance. The results revealed a mean effect size of $r = -0.10$ ($p < .05$) for cognitive anxiety and a mean effect size of $r = 0.24$ ($p < .0001$) for self-confidence. The mean effect sizes were significant which supported the two basic predictions of the MTA. Although the effect sizes were significant, the studies that were examined in the analysis reported discrepant results so the impact of cognitive anxiety and self-confidence upon competitive sport performance remains unclear. Gender and competitive standards were found as significant moderating variables for the relationship between cognitive anxiety and performance as well as self-confidence and performance. Self-confidence specifically, was more strongly related to sport performance than cognitive anxiety. In sum, both cognitive anxiety and self-confidence impact sport performance, but it is important to consider which variables may be moderating these relationships (Woodman & Hardy, 2003).

Research to this date suggests that the MTA cannot accurately predict the relationship between anxiety and performance because there are variables that moderate

the relationship such as measurement, gender, and standard of competition (Woodman & Hardy, 2003). Although performance was not one of the variables in the current study, it was important to consider how cognitive and somatic anxiety and self-confidence interact as part of the precompetitive anxiety process. Other factors contribute to the levels of precompetitive anxiety that are not addressed in the MTA. The goal of the current study was to examine additional factors that may impact anxiety before a competition. Achievement goals and the fear of failure were the two factors that were examined in depth in relation to precompetitive anxiety in high school and collegiate track and field and cross country runners.

Achievement Goals

Achievement motivation refers to a person's efforts to master a task, achieve excellence, overcome obstacles, perform better than others, and take pride in exercising talent (Murray, 1938). It is the tendency to strive for success, persist in the face of failure, and experience pride in accomplishments. Researchers are interested in the precise characteristics that allow athletes to achieve excellence and how achievement motivation influences a wide variety of behaviors, thoughts, and feelings. Achievement motivation in sport and exercise settings focuses on self-competition. One of the main theories that have evolved over the years to explain what motivates people to act is the achievement goal theory.

According to the Achievement Goal Theory (AGT), three factors interact to determine a person's motivation: achievement goals, perceived ability, and achievement behavior (Elliot & Thrash, 2001). Achievement goals are "concrete cognitive representations that serve a directional function in motivation by guiding the individual

toward or away from specific possible outcomes" (Elliot & Thrash, 2001, p. 143). Two central perspectives of achievement goals that guide decision making and action are task and ego orientations. According to Nicholls (1989), task involved athlete's main purposes are to gain skill or knowledge, to exhibit effort, to perform at one's best, and to experience personal improvement. This individual is thinking about how to accomplish the task. Task involved individuals will feel competent and successful if they achieve the task. Ego involved athletes are pre-occupied with the adequacy of their ability and the demonstration of superior competence compared to others (Nicholls, 1989). Perceptions of competence and subjective achievement entail social comparisons with others. High ability is demonstrated for the ego involved athlete when his or her performance is perceived to exceed that of others or to be equivalent with less effort exerted (Nicholls, 1989). The athletes focus is on whether he or she is good enough and how to prove his or her high level of competence. AGT states that an individual's goal perspective state is the result of both individual differences and situational factors (Elliott & Thrash, 2001).

In general, research has revealed that task and ego goal orientations are associated with qualitatively different behavioral, cognitive, and affective patterns in sport. Task orientation is related to positive motivational outcomes such as enjoyment, satisfaction, and intrinsic interest as well as the use of problem solving and adaptive learning strategies (Duda, 2001; 2005; Roberts, Treasure, & Kavussanu, 1997). In contrast, ego orientations have been associated with boredom and anxiety (Roberts et al., 1997). However, an individual who has an ego orientation and a high perception of perceived ability can respond to a situation in a similar manner as an individual who is task oriented (Roberts, 2012). Ego and task related goals have evolved into the adoption of approach

and avoidance goals which has become the more prominent approach to achievement motivation in the literature.

Although the previously mentioned perspective has made significant contributions to the literature, it was dichotomous in nature so the practical implications were limited. In order to advance achievement goal literature, the hierarchical model of achievement motivation was developed. In the hierarchical model of achievement motivation, goals are differentiated on two basic dimensions: their definition of competence and the valence of their focal outcome (Elliot, 1999; Elliot & Thrash 2001). Competence may be defined as a function of the type of standard or referent that is used in evaluation. Three standards for evaluation may be identified: an absolute standard, an intrapersonal standard, and a normative standard. Absolute competence is defined according to whether one has acquired understanding or fully mastered the task at hand. Intrapersonal competence is defined in regards to one's improved performance or fully developed skills or knowledge. Normative competence is defined according to whether an individual performed better or attained greater skill or knowledge than others. Mastery goals are focused on absolute intrapersonal competence, whereas performance goals are focused on normative competence (Elliot & Thrash, 2001).

The other dimension of achievement goals is valence which refers to whether the focal outcome is desirable or undesirable. Goals may be valenced either to approach competence or avoid incompetence. Specifically, approach goals are focused on attaining a positive, desirable possibility whereas avoidance goals are focused on avoiding a negative, undesirable possibility (Elliot & Thrash, 2001). Crossing the definition and valence dimensions of achievement goals yields a 2 x 2 framework compromising four

types of goals: mastery approach (MAp), mastery avoidance (MAv), performance approach (PAp), and performance avoidance (PAv; Elliot, 1999; Elliot & McGregor, 2001). A MAp goal represents striving to attain task mastery or improvement; a MAv goal represents striving not to fall short of task mastery or striving not to lose one's skills, abilities, or knowledge; a PAp goal represents striving to do better than others; a PAv goal represents striving not to do worse than others (Elliot & Thrash, 2001). Each of the various types of achievement goal outcomes has unique consequences in educational contexts as well as in the realm of athletics.

Outcomes of Achievement Goals. As illustrated by Duda (2001), mastery goals lead to a greater absorption in the process of improving and less preoccupation with proving an individual's superiority in a task. In contrast, performance goals compromise this process by associating competence with self-worth which occasionally disrupts an individual's effort (Covington, 1992). One would expect that MAp and PAv goals would predict the most and least adaptive motivational outcomes, respectively, and that MAv and PAp goals would have more mixed consequences because each includes a desirable and undesirable component of achievement goals. In line with this, research has shown that the pursuit of mastery approach goals is portrayed as appetitive and challenge based and is posited to elicit positive, affective, cognitive, and behavioral processes that lead to a host of positive outcomes. MAp goals have been linked to an assortment of positive processes and outcomes including challenge construals, absorption during task engagement, effort while studying, persistence while studying, self-determination while studying, long term retention of information, and intrinsic motivation (e.g., Elliot & Harakiewicz, 1996; Elliot, 1999). In contrast, Elliot and McGregor (2001) showed that

MAv goals were grounded in fear of failure, low self-determination and perceived class engagement in an undergraduate classroom setting. Additionally, MAv goals were positive predictors of disorganized studying, state trait anxiety, worry, emotionality, and subsequent goal regulation as well as mother and father person focused negative feedback, mother and father worry induction, and competence valuation (Elliot & McGregor, 2001). MAv goals emerged from individuals' perceptions that the class was engaging and interesting.

The pursuit of PAv goals is portrayed as fundamentally aversive and threat based and is posited to elicit negative affective, cognitive, and behavioral processes that lead to negative outcomes (Elliot, 1999). PAv goals have been linked to a host of negative processes and outcomes such as threat construals, low absorption during task engagement, low self-determination while studying, threat related affect while studying, procrastination, wanting to escape evaluation, anxiety prior to evaluation, poor performance, and reduced intrinsic motivation (e.g., Elliot, 1999; Elliot & Thrash, 2002; Elliot & McGregor, 2001). PAp goals are expected to produce more variable and complex empirical patterns because the focus of these goals can be congruent or incongruent with their motivational foundations and have been shown to be related to numerous positive and a few negative processes and outcomes. Positive consequences include positive perceptions of challenges, absorption during task engagement, challenge related affect while studying, calmness during evaluation due to adequate preparation, high performance outcomes, and intrinsic motivation (e.g., Elliot, 1999; Elliot & McGregor, 2001). Negative consequences included test anxiety during evaluation,

shallow processing of information, and an unwillingness to seek help with schoolwork (Elliot, 1999).

Achievement Goal Research in Sport. The majority of research on achievement goals has been conducted in classroom settings. Recently, researchers have started to investigate the role of achievement goals in athletics. Specific aspects of achievement goals have been examined in terms of the relationship with goal orientations and performance. Schantz and Conroy (2009) used the achievement goal theory to examine individual differences in affect, goals, and performance during a round of golf. The results revealed that performance variability was not accounted for by variability in goals or achievement motives and that the performance based goals varied between golfers and throughout the round for individual golfers. In regards to affective valence, arousal, and dominance, the golfers' moods did not influence mastery approach goal levels, but were associated with MAv, PAp, and PAv. Golfers who were in more unpleasant moods throughout the round had more of a PAp orientation; however, MAv goals had the closest relation to within person affective variability. Schantz and Conroy (2009) believed that the MAv orientation served as a defense mechanism following a poor performance. These results highlight the fact that the relationship between achievement goals and performance is highly complex and affective experiences should not be overlooked in the pursuit of competence in a competitive situation.

In comparison, Dewar and Kavussanu (2011) examined whether achievement goals predicted positive and negative emotions in golf and how perceived performance impacted this relationship. Perceived performance was defined as an individual's own evaluations of how he or she performed and which in turn would affect perceptions of

competence. Two hundred male golfers completed the questionnaires and the results showed that task involvement positively predicted happiness and excitement and negatively predicted dejection. This relationship was mediated by perceived performance. Perceived performance also moderated the relationship between ego involvement, happiness, dejection, and anxiety. Interestingly, ego involvement negatively predicted happiness and dejection, but positively predicted anxiety when athletes perceived that they had a poor performance. When athletes perceived that they performed well, ego involvement was unrelated to happiness, dejection, and anxiety (Dewar & Kavussanu, 2011). Based on these results, the authors suggested that athletes should conceptualize success in terms of improvement or mastery as this may lead to a greater experience of positive emotions and decrease negative emotions.

The context that invokes the development of specific achievement goal orientations may also be an important piece of the relationship with achievement goals and performance. Previous research has suggested that achievement goals may differ across different contexts. Context is normally broken down into training or competition. Training or practice, gives athletes an opportunity to develop their skills, whereas competition is a test of these skills against other athletes. Competition has an important public evaluation component associated with it which may contribute to the development of specific goal orientations in this context (van de Pol & Kavussanu, 2011). In van de Pol and Kavussanu (2011) study with competitive tennis players, athletes reported higher task orientation in training and higher ego orientation in competition. Task orientation was a positive predictor of effort in both contexts; however, ego orientation positively predicted effort in competition when task orientation was average or lower. Task

orientation positively predicted enjoyment in both training and competition which shows that competence derived through the attainment of personal achievement standards may be an important source for enjoyment (van de Pol & Kavussanu, 2001). In regards to psychological skill use, task orientation positively predicted goal setting and self-talk in both training and competition. These results illustrate that tennis players have different goal orientations in training and competition. Overall, task orientation may be more beneficial in both contexts and may influence the relationship between goal orientations, effort, enjoyment, and psychological skills use.

In a study with elite adolescent soccer players, researchers investigated the temporal relationships between achievement goals, competition appraisals, and indices of psychological and emotional welfare (Adie, Duda, & Ntoumanis, 2010). The well and ill being the researchers were assessing was operationally defined as how the elite soccer players formed positive judgments about themselves. After completing questionnaires over two competitive seasons, data analysis showed that mastery approach goals positively predicted within person changes in well-being whereas mastery avoidance goals negatively predicted changes. PAp goals were associated with increases in negative affect over time and PAv goals were negatively associated with experiences of positive affect. A secondary aim of the study was to examine the role of competition appraisals in well-being and the development of achievement goals. A MAp orientation was positively associated with challenge appraisals of a stressful event. These athletes interpreted competition as an opportunity for personal growth. In contrast, MAv goals were positively related to threat appraisals of competition. Cognitive appraisals were linked to the emotional welfare of the athletes. Individuals who viewed competition as a challenge

experienced greater self-esteem and positive affect whereas those who interpreted competition as a threat experienced lower levels of self-esteem over time. Increased levels of well-being corresponded to an increased pursuit of MAp goals which in turn increased within person levels of challenge appraisals. Since MAp goals were associated with better appraisals of challenges and greater well-being, this study implies that it is beneficial for youth athletes to adopt MAp orientations.

More recently, a study with Italian youth athletes found that perceived competence, actual competence, and task orientation were strong predictors of pleasant psychobiosocial states (Bortoli, Bertollo, Comani, & Robazza, 2011). A psychobiosocial state is evidenced by seven pleasant (e.g.enjoyment, satisfaction, interest) or unpleasant (e.g., anxiety, distress, boredom) interactive components subsumed within psychological (cognitive, emotional, motivational), biological (bodily, kinaesthetic), and social (performance, communicative) modalities (Bortoli et al., 2011). Competence and motivational climate emerged as significant predictors of psychobiosocial states. A high mastery climate was related to high scores on pleasant psychobiosocial states and performance for youth athletes who were high task oriented. Youth athletes with low ego orientations and low actual competence were shown to exhibit positive relations with mastery climate and psychobiosocial states and performance as well. Overall, the mastery climate would increase pleasant psychobiosocial states for both task and ego oriented athletes with low competence. In relation to the previously mentioned studies, all of the results imply that a mastery or task orientation is beneficial for youth, high school, and collegiate athletes.

Achievement Goals and Anxiety. In order to advance our understanding of precompetitive anxiety, researchers need to examine other factors such as goal orientations that may influence the relationship of anxiety and performance. Presently, little is known about how achievement goals influence anxiety. To fill this gap, Hall, Kerr, and Matthews (1998) examined links between perfectionism, achievement goals, and the temporal patterning of multidimensional anxiety in high school runners. Although the authors did not use the 2 x 2 framework, the results showed that ego and task goals contributed to the prediction of cognitive anxiety and confidence. Specific dimensions of perfectionism such as concern over mistakes, doubts about action, and personal standards were consistent predictors of cognitive anxiety, somatic anxiety, and confidence respectively.

Dickson (2006) sought out to examine anxiety from a motivational perspective as well. The author used a cross sectional mixed model design to investigate individual's changes on approach and avoidance goal systems. The results showed that individuals in the anxious group developed more avoidance goals and negative consequence steps associated with non-attainment of goals. In contrast, anxious and non-anxious participants did not differ on their adoption of approach goals or positive consequence steps associated with goal attainment. However, these results are inconclusive because the findings did not address causality. In other words, it cannot be determined whether an increased number of avoidance goals led to anxiety or if anxiety created a greater number of avoidance goals. Therefore, further research is needed to address these issues.

A more recent study investigated the roles of achievement goals, perception of the motivational climate, and perceived ability on anxiety in elite athletes (Abrahamsen,

Roberts, Pensgaard, 2008). The adoption of goals is thought to be influenced by a combination of personal goals and environmental factors. Compared to males, females reported higher levels of performance worry, concentration disruption, and levels of somatic anxiety. Interestingly, the specific goal orientations (e.g., task and/or ego) did not predict precompetitive anxiety for either gender. This finding supports the fact that being both task and ego oriented while perceiving a mastery climate may be the best combination for both genders. For females, the perception of the performance climate predicted concentration disruption. Perceived ability did not moderate the effect of the motivational climate on precompetitive anxiety for either gender. These results highlight how the motivational context can enhance the adoption of specific goal orientations that relate to anxiety. The authors concluded that mastery motivational climates may help athlete's better cope with anxiety before and after competitions.

Overall, the achievement goal theory has made significant contributions to the literature by suggesting that mastery approach orientations are optimal for performance (Adie et al., 2010) and mastery climates may be beneficial to relieve some of the negative precompetitive affective states (Abrahamsen et al., 2008). However, achievement goals outlined by the 2 x 2 framework have not been examined in relation to anxiety and fear of failure. Fear of failure may increase levels of precompetitive anxiety. The current study aims to investigate how achievement goals can mediate the relationship between anxiety and fear of failure.

Fear of Failure

Threat, primarily the result of fear of failure, fear of negative social evaluation, or inability to attain goals and/or expectations is a primary antecedent of competitive state

anxiety (Hammermeister & Burton, 2001). Fear of failure has been viewed as not only a motive to avoid failure in evaluative situations, but the tendency to appraise threat to the achievement of personally meaningful goals when one fails in a performance (Atkinson, 1957; Conroy, Willow, & Metzler, 2002; McClelland et al., 1953). General fear of failure has been linked to high levels of self-blame, self-attacking, and self-neglecting statements and lower levels of self-affirming, self-loving, and self-protecting statements while failing (Conroy, 2003; Conroy & Metzler, 2004). Through structural analysis of social behavior in high school and college students, Conroy (2003) established that fear of failure was strongly associated with hostile representational models of self while failing. Subsequently, Conroy and Metzler (2004) examined the relationship between self-talk, fear or failure (FF) and fear of success (FS) and sport anxiety (SA) in college students. It was hypothesized that individuals high in fear of failure would describe highly predictable patterns of self-talk while failing which would affect SA. After questionnaires were completed, data analysis revealed that self-blame was the most characteristic feature of self for individuals high in fear of failure. Interestingly, individuals high in fear of failure were more hostile toward themselves when they were succeeding. This finding suggests that these individuals felt more threatened by the evaluative context regardless of whether they were failing or succeeding. The evaluative context associated with competition is a threat that athletes face throughout their season.

In regards to achievement goals, general fear of failure has been positively linked to mastery avoidance, performance approach, and performance avoidance goals (Elliot & McGregor, 1999, 2001). Little information is known about how specific elements of fear of failure relates to 2 x 2 achievement goals. The Performance Failure Appraisal

Inventory (PFAI; Conroy et al., 2002) was designed to assess how strongly individuals believed or anticipated that certain aversive consequences would occur when they perceived they were failing (Conroy, 2001). Through factor analysis Conroy (2001) determined the five lower order fears of failure: fear of experiencing shame and embarrassment (e.g., "When I am failing, it is embarrassing if others are there to see it"), fear of devaluing one's self estimate (e.g., "When I am failing, it is often because I am not smart enough to perform successfully"), fear of having an uncertain future (e.g., "When I am failing, my future seems uncertain"), fear of important others losing interest (e.g., "When I am not succeeding, people are less interested in me"), and fear of upsetting important others (e.g., "When I am failing, I lose the trust of people who are important to me"). Researchers have recently begun to examine how the lower order fear of failure scores relate to achievement goals. For example, Conroy (2004) set out to establish the meaning of these lower order fears of failure in collegiate track and field athletes. Recreational and female varsity athletes completed measures of 2 x 2 achievement goals, fears of failing, self-talk while failing, and contextual motivation. Partial correlations revealed that fears of experiencing shame and embarrassment were associated with negative self-talk, achievement goals, and contextual motivation. Fears of having an uncertain future were associated with the greatest amount of negative self-talk and higher levels of self- blame.

Sagar and Stoeber (2009) further investigated the role of fear of experiencing shame and embarrassment in athletes. A sample of 388 athletes were recruited from a British University and completed the Sport-Multidimensional Perfectionism Scale (Sport-MPS; Dunn, Dunn, Syrotuik, 2002), the PFAI (Conroy et al., 2002), and responded to

failure and success scenarios to measure affect. Results showed that perfectionistic concern over mistakes predicted higher levels of all fears of failures, but personal standards predicted lower levels of fear of experiencing shame and embarrassment. Perceived coach pressure also predicted higher levels of fear of experiencing shame and embarrassment and higher fear of upsetting important others. Perceived coach pressure determined the affective responses to success and failure; positive affect was a result of success and negative affect resulted from failure. Pressure from parents predicted a higher fear of having an uncertain future. Overall, fear of experiencing shame and embarrassment fully mediated the relationship between concern over mistakes and negative affect after failure, as well as between perceived coach pressure and negative affect after failure.

In the realm of athletics, fear of failure results when beliefs about negative consequences of failing are triggered by situations in which failure is possible (e.g., competition; Conroy, 2004). This fear of failing has been shown to elicit feelings of trait and somatic anxiety, cognitive disruption, and worry (Conroy, 2001, 2002). According to the hierarchical model of achievement motivation, fear of failure is proposed to energize achievement behavior and predispose individuals to specific goal orientations (Elliot & Church, 1997). In a study with undergraduate students enrolled in various physical activity courses, general fear of failure predicted both mastery avoidance and performance avoidance goals. There was a weaker relationship with fear of failure and performance approach goals and a lack of a significant relationship with mastery approach goals (Conroy, 2004). Again, this study showed that fear of experiencing shame and embarrassment was most strongly linked to avoidance goals. Therefore, fear of

failure increases the likelihood that individuals will adopt avoidance goal orientations. On the other hand, mastery approach goal orientations may protect against the tendencies to develop fear of failure by reducing the unpleasant affective states that are at the core of fear of failure (Kaye, Conroy, & Fifer, 2008).

In sum, the previous research has examined multiple aspects of anxiety and various relationships with achievement goals and fear of failure. The current study is designed to find a link between anxiety, fear of failure, and achievement goals. Since relatively few studies have examined these three concepts together, the present study is aimed to fill in the gap in the current literature. Anxiety, achievement goals, and the role of fear of failure continue to be a growing concern in the athletic population. By understanding how these concepts relate to each other, coaches and sport psychology practitioners can provide athletes with the proper climate to eliminate the negative affective states that result from competitive anxiety and fear of failure. These relationships will be explored in detail in female high school cross country runners and collegiate track and field athletes.

CHAPTER 3

METHODS

Participants

Participants in the study included 77 female runners ($N_{College}$ = 60; $N_{HighSchool}$ = 17). Participants ages ranged from 13 to 22 years (M = 18.46; SD = 2.21) and were predominately Caucasian (75%; 8% African American, 6% Asian American, 7% other). As a group, participants had 1 to 10 years of running experience (M = 6.00; SD = 2.57) with the majority participating in distance events (37.7%; sprints 19.5%, middle distance 23.4%, jumps 11.6% and, throws 2.6%).

Procedures

High School. After obtaining approval from the human subjects committee, and team coaches, researchers met with the high school students after practice the week before their first regular season meet. After providing a brief overview of the current study, informed consent forms (Appendix A) approved by the Institutional Review Board were distributed and obtained from individuals who chose to participate. Parents were sent a letter about the study and an informed consent form via email. All athletes were required to have both individual and parental consent in order to participate in the study. Once informed consent was complete, researchers distributed the questionnaire packets. Researchers remained present while the participants completed the information to answer any questions.

College. After obtaining approval from the human subjects committee, coaches introduced the project to their athletes and set up a time for researchers to come collect data. The week of the first indoor track meet after holiday break, researchers met with the athletes before practice and gave a brief overview of the study. Researchers distributed

questionnaire packets to the athletes and remained present to answer any questions while athletes completed the questionnaire packet. By returning the completed the questionnaire packets the individuals gave informed consent to participate in the study.

Measures

Anxiety. To assess levels of precompetitive anxiety, the Competitive State Anxiety Inventory-2 was used (CSAI-2; Martens, Vealey, & Burton, 1990). The CSAI-2 consists of 27 questions that measure anxiety on three subscales: cognitive anxiety (e.g., "I have self-doubts before I compete"), somatic anxiety (e.g., "My body feels tense before competing"), and self-confidence (e.g., "I'm usually confident I can meet the challenge). Each subscale contains nine questions and each question contains both intensity (4-point Likert type scale ranging from 1 [*Not at all*] to 4 [*Very Much*]) and a directional scale (7-point Likert type scale ranging from -3 [*Very Negative*] to +3 [*Very Positive*]). Previous studies using the CSAI-2 have found it to be a reliable scale with Cronbach alpha reliability coefficients ranging from $\alpha = .79$ to .83 for the cognitive state scale, $\alpha = .82$ to .83 for the somatic state scale, and $\alpha = .87$ to .90 for the self-confidence scale (Martens et al., 1990).

Achievement Goals. The Achievement Goal Questionnaire for Sport (AGQ-S; Conroy, Elliot, & Hofer, 2003) was used to assess four types of achievement goals: mastery approach goals (MAp: e.g., "It is important to me to perform as well as I possibly can"), performance approach goals (PAp: e.g., "It is important to me to perform better than others"), mastery avoidance goals (MAv: e.g., "I worry that I may not perform as well as I possibly can"), performance avoidance goals (PAv: e.g., "I just want to avoid performing worse than others"). Each subscale contains four questions that are answered

on a 7-point Likert type scale ranging from 1 (*disagree*) to 7 (*agree).* The AGQ-S has been used in numerous studies and has shown acceptable levels of reliability and validity (Conroy et. al, 2003; Conroy, Kaye, & Coatsworth, 2006; Kaye, Conroy, & Fifer, 2008).

Fear of Failure. The Performance Failure Appraisal Inventory (PFAI; Conroy, 2001; Conroy, Willow, & Metzler, 2002) is a multidimensional measure of cognitive motivational relational appraisals associated with fear of failure. The questionnaire contains 25 items which assess five aversive consequences of fear of failure including: fear of shame and embarrassment (FSE; e.g., "When I am failing, I doubt that I am as good as I thought I was"), fear of devaluing one's self estimate (FDSE; e.g., "When I am failing, it is often because I am not smart enough to perform successfully"), fear of having an uncertain future (FUF; e.g., "When I am failing, it upsets my 'plan' for the future"), fear of important others losing interest (FIOLO; e.g., "When I am not succeeding, people are less interested in me"), and fear of upsetting important others (FUIO; e.g., "When I am failing, I expect to be criticized by important others"). Each question is answered on a 5-point Likert type scale ranging from -2 (*do not believe at all*) to +2 (*completely believe*). Previous studies that have used this scale have established satisfactory levels of validity and reliability as well as patterns with other relevant constructs (e.g., achievement goals, performance anxiety; Conroy, 2004; Conroy, Metzler, & Hofer, 2003).

Data Analysis

Descriptive statistics were run for all variables. Frequencies were calculated for event group and race. Correlations were run to examine the relationships between FF and cognitive and somatic anxiety. Correlations were used to test the hypothesis that

increases in FF would be related to greater amounts of cognitive and somatic anxiety and to test whether or not higher FF scores were related to more negative interpretations of cognitive and somatic anxiety. Correlations were also used to test whether or not higher FF scores predicted lower self-confidence scores. To test the relationship between avoidance goals and anxiety, correlations were run to investigate how avoidance goals (MAv, PAv) relate to higher cognitive and somatic scores and lower self-confidence scores.

The next step was to determine if age and years of participation predicted levels of anxiety and self-confidence. Multiple regression analysis was used to test the hypothesis that female runners with more experience (based on the number of years they have participated in track and field or cross country) will have lower anxiety scores and higher self-confidence scores. Multiple regression was also used to determine if age and years of participation predicted FF scores as well as MAp and PAp goals. A one way ANOVA was conducted to see if distance runners had higher FF and anxiety scores and lower self-confidence scores compared to the other event groups.

A series of regression analyses were conducted next. Regression analysis was first used to test the hypothesis regarding the possible connection between FF and MAv, PAp, and PAv goals. To test the hypothesis that FSE would be a strong predictor of MAv and PAv goals, above and beyond the other lower order fears of failure a second regression analysis was conducted. For the purpose of this analysis, FF was the independent variable and the dependent variables were each type of achievement goal (MAv, PAp, and PAv). FSE was also tested as an independent variable with the dependent variables of MAv and PAv.

Next, to test the mediation effect of achievement goals on the relationship between FF and anxiety, a series of regression analyses were run following Baron & Kenny's (1986) steps. In step one, FF was regressed onto each type of anxiety: cognitive anxiety (intensity), cognitive anxiety (direction), somatic anxiety (intensity), somatic anxiety (direction), self-confidence (intensity), and self-confidence (direction). The second step was to test the relationship between general FF and achievement goals which was previously tested through regression analysis. The third step was to test the relationship between achievement goals (MAv, PAp, and PAv) and cognitive and somatic anxiety using six separate regressions. The final step was to test whether the type of achievement goal mediated the relationship between FF and anxiety through six multiple regression analyses in which both FF and MAv, PAp, and PAv goals were regressed onto cognitive and somatic anxiety. If, in this fourth step, the relationship between FF and anxiety is reduced, then achievement goals have partially mediated the relationship between FF and anxiety. If the relationship between FF and anxiety still exists, then there is no mediation. A full mediating effect would exist if the relationship between FF and anxiety was reduced to zero.

CHAPTER 4

RESULTS

Descriptive statistics which included the range, mean, and standard deviation for all of the subscales of each measure are reported in Table 1. Responses to the scales exhibited acceptable levels of reliability (α = .69 – .92; (Conroy et al., 2002. Due to a low Cronbach alpha's (α = .56), the FDSE subscale was excluded from further analysis.

Table 1

Descriptive Statistics of Measures

	Minimum	Maximum	M	SD	α
AGQ-S					
MAp	4.33	7.00	6.52	0.60	0.69
PAp	2.00	7.00	5.28	1.25	0.88
MAv	2.00	7.00	5.87	1.18	0.92
PAv	1.00	7.00	3.90	1.53	0.90
CSAI-2					
CA_I	1.22	3.67	2.60	0.57	0.81
SA_I	1.56	3.78	2.54	0.54	0.75
SC_I	1.00	3.67	2.13	0.56	0.87
CA_D	1.67	5.11	3.36	0.78	0.65
SA_D	1.89	5.56	3.88	0.84	0.70
SC_D	1.00	6.78	4.46	1.41	0.91
PFAI					
FF	1.28	4.08	2.90	0.61	0.89
FSE	1.00	5.00	3.39	0.84	0.84
FDSE	1.00	4.25	2.75	0.71	0.56
FIOLI	1.00	4.60	2.64	0.89	0.81
FUIO	1.00	5.00	2.65	0.97	0.84
FUF	1.00	4.75	2.88	0.94	0.87

Note: AGQ-S = Achievement Goal Questionnaire for Sport, MAp = mastery approach, PAp = performance approach, MAv = mastery avoidance, PAv = performance avoidance, CSAI-2 = Competitive State Anxiety Inventory-2, CA_I = cognitive anxiety (intensity), SA_I = somatic anxiety (intensity), SC_I = self-confidence (intensity), CA_D = cognitive anxiety (direction), SA_D = somatic anxiety (direction), SC_D = self-confidence (direction), PFAI = Performance Failure Appraisal Inventory, FF = General fear of failure, FSE = fear of shame and embarrassment, FDSE = fear of devaluing one's self estimate, FIOLI = fear of important others losing interest, FUIO = fear of upsetting important others, FUF = fear of having an uncertain future.

Correlations

The first step of the data analysis was to conduct bivariate correlational analyses. It was hypothesized that increases in FF would be related to increases in the intensity of cognitive and somatic anxiety. The results revealed a significant relationship with a moderate effect size between FF and the intensity of cognitive anxiety ($r = 0.50$, $p < 0.01$), but a significant relationship did not emerge between FF and the intensity of somatic anxiety ($r = 0.13$, $p = .30$). Therefore, the first hypothesis was partially supported.

Next, the relationship between FF and the direction of anxiety was tested. It was predicted that higher FF scores would be related to more negative interpretations of anxiety as depicted by the scores on the directional scale of the CSAI-2. This hypothesis was partially supported with a significant negative correlation between FF and the direction of cognitive anxiety ($r = -0.35$, $p < 0.01$). Although, this result is significant, it is important to note that the strength of the relationship is small. The results for FF and the direction of somatic anxiety did not reveal a significant relationship ($r = -0.05$, $p = 0.69$).

The third hypothesis predicted an inverse relationship between FF and self-confidence scores, the results did not support this hypothesis as FF was not related to either the intensity or direction of self-confidence, respectively ($r = -0.18$, $p = 0.15$; $r = -0.18$, $p = 0.17$).

A regression analysis was next run to examine how age and years of participation predicted levels of anxiety. Results revealed that years of participation and age did not significantly predict the intensity of cognitive anxiety scores, $F(2, 64) = .80$, $p = .46$, $R^2 =$

.02, self-confidence scores $F(2, 62) = .71$, $p = .50$, $R^2 = .02$, or FF scores $F(2, 65) = .80$, $p = .46$, $R^2 = .02$. Years of participation and age did partially support the hypothesis that female runners who were older and had more experience would have more of an approach goal orientation with a relationship approaching significance with MAp goals $F(2, 67) = 2.61$, $p = .08$, $R^2 = .07$ and a significant relationship with PAp goals $F(2, 66) = 3.11$, $p = .05$, $R^2 = .09$.

The next set of hypotheses addressed the relationship between FF and achievement goals. It was predicted that FF would be related to only MAv, PAp, and PAv goals and that the subscale FSE would be related to MAv and PAv goals. Table 2 shows the results of the correlational analysis testing this hypothesis. FSE was related to not only MAv and PAv goals, but also PAp. Notably, FF and FSE were most strongly related to PAp goals, respectively ($r = .47$; $r = .53$).

Table 2

Correlations for FF and Achievement Goals

	1	2	3	4	5	6	7	8	9
1. FF	1.00								
2. FSE	.87**	1.00							
3. FIOLI	.76**	.66**	1.00						
4. FUIO	.66**	.40**	.30*	1.00					
5. FUF	.66**	.42**	.31**	.38**	1.00				
6. MAv	.26*	.33**	.22	.10	.13	1.00			
7. Pap	.47**	.53**	.37**	.30*	.17	.34**	1.00		
8. PAv	.33**	.31**	.14	.33**	.06	.38**	.36**	1.00	
9. Map	.15	.10	.08	.21	.21	.07	.43**	-.12	1.00

Note: ** = $p < .01$, * = $p < .05$

FF = General fear of failure, FSE = fear of shame and embarrassment, FIOLI = fear of important others losing interest, FUIO = fear of upsetting important others, FUF = fear of having an uncertain future, MAv = mastery avoidance, PAp = performance approach, PAv = performance avoidance, MAp = mastery approach

The next step was to test the relationship between avoidance goals and anxiety. It was hypothesized that individuals with an avoidance orientation would report higher cognitive and somatic anxiety scores and lower self-confidence scores. Individuals with an approach orientation were expected to report lower cognitive and somatic anxiety scores and higher self-confidence scores. Results indicated that there were no significant relationships between approach goals and anxiety and self-confidence. The results examining the relationship between avoidance goals and anxiety presented in Table 3 partially support the avoidance goal hypothesis. MAv goals were significantly correlated to the intensity of cognitive anxiety but not the intensity of somatic anxiety (r = .57, p < .01). MAv goals were negatively correlated to the direction of cognitive anxiety but were unrelated to the direction of somatic anxiety (r = -.38, p < .05). MAv goals were also negatively correlated to the intensity and direction of self-confidence, respectively (r = -.55, p < .01; r = -.32, p <.05). PAv goals were positively related to the intensity of cognitive anxiety, but were also unrelated to the direction and intensity of somatic anxiety (r = .49, p < .01). PAv goals were negatively related to the intensity of self-confidence and the direction of self-confidence (r = -.33, p < .01; r = -.34, p < .01).

Table 3

Correlations for Achievement Goals and Anxiety

	1	2	3	4	5	6	7	8	9
1. MAp									
2. MAv	.07								
3. PAp	.43**	.34**							
4. PAv	-.12	.38**	.36**						
5. CA_I	-.08	.57**	.12	.49**					
6. SA_I	-.09	.14	.10	.17	.31*				
7. SC_I	.18	-.55**	.07	-.33**	-.70	.35**			
8.CA_D	.01	-.38	-.17	-.19	-.41	.06	.25		
9. SA_D	.14	-.13	.17	-.06	-.19	-.05	.29*	.39**	
10.SC_D	.08	-.32*	-.06	-.34**	-.50**	-.34**	-.64**	.20	.21

Note: ** = p < .01, * = p < .05
MAp = mastery approach, MAv = mastery avoidance, PAp = performance approach, PAv = performance avoidance, CA_I = cognitive anxiety (intensity), SA_I = somatic anxiety (intensity), SC_I = self-confidence (intensity), CA_D = cognitive anxiety (direction), SA_D = somatic anxiety (direction), SC_D = self-confidence (direction)

Regression Analyses

Regression analyses were conducted following the correlations to examine the relationships between the fear of failure and achievement goals. The first regression analysis supported the hypothesis that FF predicted: MAv ($F(1, 67) = 4.83$, $p < 0.05$, $R^2 = 0.07$), PAv ($F(1, 67) = 8.05$, $p < .01$, $R^2 = 0.11$), and PAp goals ($F(1, 66) = 18.61$, $p < 0.01$, $R^2 = 0.22$). The next step was to test if fear of shame and embarrassment would be a predictor of MAv and PAv goals, more so than the other lower order fears of failure. The results of the regression analyses as reported in Table 4, revealed that FSE predicted PAv goals, but not MAv goals, when accounting for the other lower order fears of failure.

Mediation Effects

Following Baron and Kenny's (1986) steps, a series of regression analyses were run to test the mediation effects of achievement goals on the relationship between FF and

anxiety. The first step was to test the relationship between FF and anxiety. FF significantly predicted the intensity of cognitive anxiety, $\beta = .50$, $t(64) = 4.60$, $p < .01$. FF also explained a quarter of the variance in the cognitive anxiety intensity scores, $R^2 = .25$, $F(1, 64) = 21.18$, $p < .01$. FF significantly predicted the direction of cognitive anxiety, $\beta = -.35$, $t(64) = -2.95$, $p < .01$ and accounted for 12% of the variance, $R^2 = .12$, $F(1, 64) = 8.72$, $p < .01$. FF did not significantly predict the intensity ($\beta = .13$, $t(63) = 1.04$, $p = .30$) or direction of somatic anxiety ($\beta = -.05$, $t(60) = -.40$, $p = .69$).

The second step was to test the relationship between general FF and achievement goals which was previously tested through regression analysis. Table 4 shows the results of this analysis and reveals how the lower order fears of failure predicted the achievement goals. FF predicted MAv, PAp, and PAv goals and FSE significantly predicted PAv goals, but not MAv goals.

The third step was to conduct a series of six separate regressions to test the relationship between achievement goals (MAv, PAp, and PAv) and cognitive and somatic anxiety. First, MAv goals significantly predicted the intensity of cognitive anxiety, $\beta = .57$, $t(66) = 5.60$, $p < .01$ and accounted for 32% of the variation in the intensity of cognitive anxiety scores, $R^2 = .32$, $F(1, 66) = 31.32$, $p < .01$. Second, MAv goals also significantly predicted the direction of cognitive anxiety, $\beta = -.38$, $t(66) = -3.03$, $p < .01$ and accounted for 14% of the variation in the scores for cognitive anxiety direction $R^2 = .14$, $F(1, 66) = 10.91$, $p < .01$. The intensity and direction of somatic anxiety was not significantly predicted by MAv goals respectively ($\beta = .14$, $t(65) = 1.10$, $p = .28$; $\beta = .13$, $t(62) = -1.00$, $p = .32$).

Table 4

Regression coefficients and FF predicting achievement goals

	B	*SE b*	β	R^2	ΔR^2
MAv					
Step 1				0.05	
Constant	5.00	0.57			
FIOLI	0.23	0.17	0.17		
FUF	0.10	0.16	0.08		
FUIO	0.00	0.16	0.00		
Step 2				0.09	0.05
Constant	4.54	0.62			
FIOLI	-0.01	0.22	-0.01		
FUF	0.02	0.17	0.01		
FUIO	-0.05	0.16	1.04		
FSE	0.43	0.24	0.31		
PAp					
Step 1				0.18**	
Constant	3.37	0.57			
FIOLI	0.46	0.18	0.32**		
FUF	-0.02	0.17	-0.01		
FUIO	0.28	0.16	0.22		
Step 2				0.31**	
					0.13**
Constant	2.52	0.60			
FIOLI	0.02	0.21	0.02		
FUF	-0.16	0.16	-0.12		
FUIO	0.18	0.15	0.14		
FSE	0.78	0.23	0.52**		
PAv					
Step 1				0.12*	
Constant	2.69	0.73			
FIOLI	0.07	0.22	0.04		
FUF	-0.15	0.21	-0.09		
FUIO	0.55	0.20	0.35		
Step 2				0.18*	0.06*
Constant	1.97	0.78			
FIOLI	-0.30	0.27	-0.17		
FUF	-0.28	0.21	-0.17		
FUIO	0.46	0.20	0.30*		
FSE	0.67	0.30	0.37*		

Note: ** = $p < .01$, * = $p < .05$

FIOLI = fear of important others losing interest, FUF = fear of having an uncertain future, FUIO = fear of upsetting important others, FSE = fear of shame and embarrassment

Third, PAv goals significantly predicted the intensity of cognitive anxiety scores, $\beta = .50$, $t(66) = 11.51$, $p < .01$, and explained almost a quarter of the variance in the intensity of cognitive anxiety scores, $R^2 = .24$, $F(1, 66) = 20.77$, $p < .01$. Unlike MAv goals, PAv goals did not significantly predict the direction of cognitive anxiety scores, $\beta = -.19$, $t(66) = -1.60$, $p = .12$. Fourth, PAv goals also did not significantly predict the intensity ($\beta = .17$, $t(65) = 1.41$, $p = .16$) or direction ($\beta = -.06$, $t(62) = -.50$, $p = .62$) of somatic anxiety. The final two regressions showed that PAp goals did not significantly predict the intensity ($\beta = .12$, $t(65) = .96$, $p = .34$ CA; $\beta = .10$, $t(64) = .83$, $p = .41$ SA) or direction ($\beta = -.17$, $t(65) = -1.36$, $p = .18$ CA; $\beta = .17$, $t(61) = 1.36$, $p = .18$ SA) for either cognitive or somatic anxiety.

The final step was to test whether the type of achievement goal mediated the relationship between FF and anxiety. The results of the regression analysis showed that avoidance achievement goals partially mediated the relationship between FF and anxiety. MAv goals partially mediated the relationship between FF and the intensity of cognitive anxiety, $\beta = .38$, $p < .01$ and the direction of cognitive anxiety $\beta = -.28$, $p < .01$. MAv goals did not mediate the relationship between FF and the intensity and direction of somatic anxiety. PAv goals partially mediated the relationship between FF and the intensity of cognitive anxiety $\beta = .39$, $p < .01$, but did not mediate the relationship between FF and the direction of cognitive anxiety.

CHAPTER 5

DISCUSSION

The current study was one of the first attempts to investigate how fear of failure, competitive anxiety, and achievement goals were related to each other.

Fear of Failure and Anxiety

General FF was significantly related to the intensity and direction of cognitive anxiety, but unrelated to somatic anxiety. It is possible that FF is unrelated to somatic anxiety because FF is based on psychological components rather than physiological symptoms. Jones (1995) found that somatic symptoms tended to dissipate at the onset of competition which makes it difficult to determine the impact of FF on somatic anxiety throughout a competition. The relationship between FF and cognitive anxiety may suggest that runners who have thoughts about failing have more negative thoughts before racing which contributes to their level of cognitive anxiety. Future studies may want to test FF and anxiety before, during, and after competition to test for differences in anxiety.

General FF also significantly predicted the intensity and direction of cognitive anxiety. These results suggest that FF plays a significant role in the overall level of anxiety as depicted by the anxiety score, as well as the interpretation of anxiety. Individuals in stressful competitive situations who perceive a lack of control over the environment, themselves, and goal attainment interpret anxiety as debilitative (Jones, 1995; O'Brien, Hanton, Mellalieu, 2005). Female runners who are higher in FF may also interpret their anxiety as debilitative to performance so they may need to use additional cognitive restructuring techniques to cope with their anxiety. However, Hanton, Thomas, & Maynard (2004) found that once athletes had interpreted their symptoms as either

positive or negative towards performance, their interpretations remained relatively stable leading up to a competition. Therefore, higher FF and more negative interpretations of anxiety can lead to a poor performance during competition. Future studies may want to examine the role of FF over time leading up to a competition and examine how more debilitative interpretations of anxiety can effect performance.

Fear of Failure and Self-Confidence

FF was not related to either the intensity or direction of self-confidence which suggests that a runner's confidence may be unrelated to thoughts about failing. One aspect that has been shown to be related to self-confidence is goal generation. Participants who contributed to the development of their goals and had positive goal attainment expectations had higher self-confidence (O'Brien et al., 2005). Self-confidence may also be related to other factors such as preparation before the race, positive self-talk and past race performances (Hanton, Mellalieu, & Hall, 2004).

Recent literature has suggested that self-confidence can be moderated by the use of cognitive confidence management strategies (Hanton et al., 2002). The present study did not take into consideration the use of confidence management strategies such as thought stopping, positive self-talk, and mental rehearsal. Therefore, it is possible that FF was not related to the intensity or direction of self-confidence because the participants were using these strategies to protect themselves against the debilitative effects of thoughts of failing. Competitive standards and performance expectations can also moderate levels of self-confidence (Woodman & Hardy, 2003). Since these variables were not examined in the current study, it is possible that the race standards and the participant's expectations may have influenced self-confidence. If the standards and expectations were low, then the

runner's might not be worried about failing which would support the result that fear of failure was unrelated to self-confidence.

Effects of Age and Experience on Anxiety, Self-Confidence, and FF

Two factors that were included in the study that were thought to effect anxiety and self-confidence were age and experience (defined by years of participation). It was proposed that as age and experience increased, anxiety and FF would decrease, and self-confidence would increase. However, age and years of participation did not significantly predict cognitive anxiety scores, self-confidence scores, or FF scores. Previous studies have linked age and experience with anxiety, self-confidence, and FF. Research on youth participating in sport has shown that both worries about process (e.g., not playing well, making mistakes) and outcome (e.g., losing, criticism from parents and coaches) were correlated with FF (Conroy, 2001). The present study may have been limited by the age of the participants. Hanton, Neil, Mellalieu, & Fletcher (2008) found that current elite athletes with high levels of experience reported increased levels of self-confidence and lower levels of anxiety. These results may not have been replicated in the current study because the participants may not have had enough experience with running to decrease their anxiety and increase their self-confidence during performance. Future studies may want to include samples from various levels (i.e., high school, collegiate, and elite) to determine if a relationship exists between age and experience and anxiety and FF.

Boardley and Kavussanu (2011) proposed that fear of failure and sport experience would be positively correlated based on the increasing level of competition that accompanies increased sport experience. The results of their study indicated a weak to moderate positive relationship between sport experience and fear of failure in males, but

no significant relationship existed in females. The present study used only female participants so this finding is consistent with the result that experience did not predict anxiety, FF, or self-confidence. It may be beneficial for future studies to further explore the relationship between sport experience and FF and examine gender differences as a mediating factor.

Age and Experience and Achievement Goals

Age and years of participation did partially support the hypothesis that female runners who were older and had more experience would have more of an approach goal orientation. MAp goals were almost significantly predicted by age and years of participation, and PAp goals were significantly predicted by age and years of participation. Although previous research has not examined gender differences in the adoption of 2 x 2 achievement goals, other research has found that females tend to be more task-oriented while males tend to be more ego-oriented in an athletic context (Li, Harmer, & Acock, 1996). Task-oriented athletes tend to believe that sports enhance cooperative skills personal mastery, togetherness, and higher levels of enjoyment (Duda, 1989). In regards to age, previous studies have shown that younger athletes tend to be more task-oriented than older athletes (Xiang & Lee, 2002). In a study with adolescent Malaysian track and field athletes, younger female athletes from rural and urban schools had lower competence beliefs, but older athletes had higher competence beliefs (Chin, Khoo, & Low, 2009). These findings support the results of the current study and reflect that females with more experience and higher competence beliefs may be more likely to adopt an approach orientation.

Fear of Failure and Achievement Goals

In relation to FF and achievement goals, the results supported the hypothesis that FF would be related to MAv, PAp, and PAv goals. FF most strongly predicted PAp goals followed by PAv, then MAv goals. FF accounted for 22% of the variance in PAp goals. Conroy and Elliot (2004) found that FF predicted avoidance goals, but there was a weaker relationship with FF and PAp. Contrary to the findings of Conroy and Elliot (2004), the current study found a stronger relationship with FF and PAp than FF and MAv. It is possible that these results are due to the population that was used in the studies. The current study used only female high school and college runners. Conroy and Elliot (2004) used undergraduate students from physical activity courses whereas the current study used high school and college students who were involved on an athletic team. Similar to Conroy and Elliot (2004), the current study did not find a significant relationship between FF and MAp. One explanation for the lack of relationship between FF and MAp comes from Kaye, Conroy, and Fifer (2008). The authors suggested that MAp goal orientations may protect against the tendencies to develop fear of failure by reducing the unpleasant affective states that are at the core of fear of failure.

In terms of specific fears of failure, FSE was related to not only MAv and PAv goals, but also PAp. Elliot and McGregor (2001) showed that MAv goals were grounded in FF and that FSE was most strongly linked to avoidance goals. The current study found that FSE was most strongly linked to PAp goals. This suggests that female high school and college runners not only have a desire to perform better than others, but they also have a strong FSE in front of their peers and spectators. Individuals with a fear of failure describe significant instructors (e.g., coaches) as critical, attacking, neglectful, and less affirming (Conroy & Coatsworth, 2004). Coaches provide their athletes with standards of

acceptable performance and give constructive feedback about their abilities. Therefore, feedback from coaches becomes a source of pressure for athletes (Anshel & Eom, 2002; Dunn et al., 2006). Although the relationship between coaches and athletes were not examined in the present study, it may contribute to the development of the athlete's FSE. Future studies may want to examine the relationship between coaches and athletes to determine how it impacts an athlete's FSE.

While the present study did not examine whether FF precedes the development of achievement goals, Conroy and Elliot (2004) found that PAp goals were unrelated to FF as an antecedent or a consequence. In terms of specific fears of failure, it cannot be determined whether higher levels of FSE contributed to greater PAp goals or whether a PAp goal orientation led to higher levels of FSE. However, FSE has been shown to fully mediate the relationship between perfectionistic concern and negative affect (Sagar & Stoeber, 2009). Perfectionistic concern over mistakes and perceived parental pressure showed a positive relationship with FSE and negative affect after failure (Sagar & Stoeber, 2009). In comparison, striving for perfection has been shown to be positively related to MAp and PAp goals and negative reactions to imperfection (Stoeber et al., 2008). In combination with the connections to perfectionism from previous studies and the significant relationship between FSE and approach goal orientations, FSE has proven to be a central player in the development of FF and competitive anxiety.

Achievement Goals and Anxiety

Approach goal orientations were predicted to be related to lower cognitive and somatic anxiety scores and lower self-confidence scores. However, results of the correlation analysis revealed no significant relationship between approach achievement

goals and anxiety. Previous research has found that MAp goal orientations elicit positive affective, cognitive, and behavioral processes that are linked to positive outcomes such as intrinsic motivation and decreased levels of state anxiety (e.g., Elliot, & Harackiewicz, 1996; Elliot, 1999). In contrast, Schantz and Conroy (2009) found that golfers'moods throughout a round of golf were associated with MAv, PAp, and PAv goals, but not MAp goals. Golfers who were in unpleasant moods typically had PAp goals throughout the round. PAp goals produce more complex empirical patterns and have been shown to be related to high performance outcomes, intrinsic motivation, but also anxiety during evaluation (e.g., Elliot, 1999; Elliot & McGregor, 2001). However, these studies were conducted in academic settings where the participants performed novel tasks and were placed into various experimental conditions (Elliot & McGregor, 2001). Since no significant relationships emerged between approach goals and anxiety in the current study, the hypothesis that runners with an approach goal orientation would have lower anxiety scores and higher self-confidence scores was not supported.

The hypothesis that avoidance goals would be related to higher anxiety scores and lower self-confidence scores was partially supported. MAv goals were significantly related to the intensity of cognitive anxiety but not the intensity of somatic anxiety. MAv goals were negatively related to the direction of cognitive anxiety, but no significant relationship emerged with the direction of somatic anxiety. MAv goals were also negatively related to the intensity and direction of self-confidence respectively. Previous studies have found that MAv goals positively predicted state trait anxiety and worry (Elliot & McGregor, 2001) so the results of the current study support past findings. In an academic environment, MAv goals were associated with significantly higher cognitive

anxiety, negative affect, and fear of failure. MAv goals also significantly predicted negative affect (Sideridis, 2008). However, MAv goals may be considered somewhat controversial since they are a relatively new concept in achievement motivation (Ciani & Sheldon, 2010). To determine the prevalence of MAv goals, Ciani and Sheldon (2010) interviewed college baseball players and found that about half of them had identified with MAv goal orientations, but there were differences in how the players endorsed the goals. Seven out of the nine participants who endorsed MAv goals provided a written explanation that emphasized an approach goal orientation. Even though the current study found significant relationships between MAv goals and cognitive anxiety, it cannot be determined how the participants interpreted the avoidance distinction on the questionnaire. Future studies may want to include a qualitative component to see how athletes interpret their goal orientations. A qualitative study would allow researchers to examine how athletes were processing their goals leading up to a competition. It would help to determine if there was a discrepancy between how the athlete identified their goal orientation and how they thought about it effecting their performance.

The pursuit of PAv goals can cause negative affective, cognitive, and behavioral processes that lead to negative outcomes such as anxiety prior to evaluation, poor performance, and decreased intrinsic motivation (e.g., Elliot, 1999; Elliot & Thrash, 2002; Elliot & McGregor, 2001). The present study found that PAv goals were positively related to the intensity of cognitive anxiety, but were unrelated to the direction and intensity of somatic anxiety. In other words, female runners who aimed not to do worse than others had more negative thoughts, but did not experience a significant amount of the physiological symptoms of anxiety. In relation to self-confidence, PAv goals were

negatively related to the intensity and direction of self-confidence. As the desire to not to do worse than others increased, the participants felt less confident and, in turn, had a more negative interpretation of how that lack of self-confidence might influence their performance. This finding suggests that coaches and practitioners should create an environment that allows for the adoption of approach goals to promote the positive outcomes associated with approach goals and alleviate the negative effects of avoidance goal orientations.

The current study found that MAv goal orientations significantly predicted the intensity and direction of cognitive anxiety, but did not predict the intensity or direction of somatic anxiety. These findings suggest that female runners with a MAv goal orientation may experience more of the psychological effects of anxiety and interpret those effects more negatively. These results may be due to how the participants appraised the competitive situation. Lazarus and Folkman (1984) demonstrated that challenge and threat appraisals have significant effects on cognitive and behavioral responses in competitive situations. If the participants considered the competitive situation a threat then they would feel that they were lacking the resources to effectively deal with the situation (Stoeber & Crombie, 2010). Incompetence leads to feelings of anxiety which has negative effects on performance (Stober & Crombie, 2010). Future studies could observe the effects of achievement goal orientations throughout the season leading up to championship level meets to determine how the individual interprets their anxiety.

Similarly, PAv goal orientations significantly predicted the intensity of cognitive anxiety. This finding suggests that female runners with a PAv goal orientation experienced more negative thoughts before a performance. This finding highlights the

notion that runners may fall into the category of negative perfectionists. Negative perfectionists tend to react to stress in neurotic ways and do not accept themselves because they believe that their failures reflect upon themselves (Burns & Fedewa, 2005; Fedewa, Burns, & Gomez, 2005). Negative perfectionists also tend to cope with problems by avoiding them and ruminate on their mistakes (Burns & Fedewa, 2005; Fedewa, Burns, & Gomez, 2005).

Although PAv goals did not predict the direction of cognitive anxiety, or the intensity or direction of somatic anxiety, it can be suggested that an avoidance orientation may lead to a more a negative interpretation of anxiety because avoidance goals are associated with negative outcomes (Elliot & Thrash, 2001, Elliot, 1999). The pursuit of PAv goals is portrayed as fundamentally aversive and threat based and is posited to elicit negative affective, cognitive, and behavioral processes that lead to negative outcomes (Elliot, 1999). Individuals who pursue PAv goals focus on the possibility of further failure and become victim to ruminating thoughts about the initial failure which impacts their performance (Dickhauser, Buch, & Dickhauser, 2011; Elliot, 2005). Individuals with PAv goals are considered to be more vulnerable to negative self-related thoughts after failure and demonstrate impaired achievement (Dickhauser et al., 2011).

Interestingly, an avoidance orientation did not predict any of the physiological symptoms associated with anxiety as predicted by the somatic anxiety subscales. In a study with martial artists, the direction of somatic anxiety was related to positive affect, the intensity of somatic anxiety, the proximity to competition, and the interaction effect of neuroticism (Cerin, 2004). Neuroticism moderated the relationship between momentary somatic anxiety intensity and direction and cognitive anxiety direction and

negative affect. Athletes who were higher in neuroticism were more negatively affected by increased negative affect and somatic anxiety than those lower in neuroticism (Cerin, 2004). The present finding may be due to a lack of awareness of the physiological symptoms of anxiety. Runners may interpret their pre-competitive emotions differently and not necessarily attribute them to anxiety which would explain why somatic anxiety was not predicted by the goal orientation.

Alternatively, PAp goals did not predict the intensity or direction for either cognitive or somatic anxiety which suggests that anxiety before a race might be less prevalent in female runners with an approach orientation. PAp goals are expected to produce more variable and complex empirical patterns because the focus of these goals can be congruent or incongruent with their motivational foundations (Elliott & McGregor, 2001). Individuals with a PAp goal orientation view failure as a personal challenge and strengthen their effort after a failure to continue to try and reach their goal (Dickhauser et al., 2011). PAp goals have been shown to be related to positive consequences including positive perceptions of challenges, absorption during task engagement, challenge related affect while studying, calmness during evaluation due to adequate preparation, high performance outcomes, and intrinsic motivation (e.g., Elliot, 1999; Elliot & McGregor, 2001).

Mediation

Overall, the main objective of the current study was to see if achievement goals mediated the relationship between general FF and anxiety. The results of the mediation analysis suggest that avoidance goals induced by general FF lead to more negative thoughts before a competition. Specifically, the results revealed that MAv goals partially

mediated the relationship between FF and the intensity and direction of cognitive anxiety. Few studies have used the 2 x 2 achievement goal framework as a mediator. Most studies have used task and ego involvement and examined variables such as perfectionism or performance as mediators. Although performance was not a variable in the current study, perceived performance has been shown to moderate the relationship between ego involvement and anxiety (Dewar & Kavussanu, 2011). Ego involvement predicted anxiety positively when athletes perceived that they performed poorly, but was unrelated when athletes believed that they performed well (Dewar & Kavussanu, 2011). Controlling parents and two dimensions of perfectionism (doubts about actions and concern over mistakes) have also been shown to positively predict achievement goals. Specifically, psychologically controlling parents positively predicted both PAp and PAv goals. The two dimensions of perfectionism fully mediated those effects (Fletcher, Shim, & Wang, 2012). In the current study, PAv goals partially mediated the relationship between FF and the intensity of cognitive anxiety, but not the direction of cognitive anxiety. In an academic setting, PAv goals and worry mediated the effect of stereotype threat on performance (Brodish & Devine, 2009). In a separate study interested in meta-cognitive self-regulation, PAv goals did not mediate the relationship between FF and self-regulation even though FF was negatively associated with self-regulation (Bartels & Magun-Jackson, 2009). In sum, the mediating role of 2 x 2 achievement goals has been noted in academic settings, but little evidence exists in athletic settings.

CHAPTER 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Overall, general FF played a significant role in pre-competitive anxiety in high school and collegiate female cross-country and track and field athletes. General FF was significantly related to the intensity and direction of cognitive anxiety, but unrelated to somatic anxiety. General FF also significantly predicted the intensity and direction of cognitive anxiety. FF was not related to either the intensity or direction of self-confidence. General FF was found to be linked to avoidance goal orientations as well. Age and years of participation did not significantly predict cognitive anxiety scores, self-confidence scores, or FF scores. Age and years of participation did partially support the hypothesis that female runners who were older and had more experience would have more of an approach goal orientation. Goal orientations were also shown to be related to pre-competitive anxiety. Specifically, avoidance goal orientations had a strong relationship with cognitive anxiety. In relation to FF and achievement goals, the results supported the hypothesis that FF would be related to MAv, PAp, and PAv goals. In terms of specific fears of failure, FSE was related to not only MAv and PAv goals, but also PAp. Results of the correlation analysis revealed no significant relationship between approach achievement goals and anxiety. In addition, achievement goals partially mediated the relationship between general FF and pre-competitive anxiety.

Conclusions and Practical Applications of Findings

These findings have important implications for coaches and sport psychology consultants. These findings provide coaches and consultants with a better understanding

of how FF, anxiety, and achievement goal orientations interact to impact overall performance. By providing athletes with the resources they need to cope with their anxiety and fear of failure, athletes may be more equipped to reach their desired performance levels.

Coaches should be aware of the public evaluation component associated with performance which may contribute to the type of achievement goal that is adopted. Since approach goal orientations, specifically mastery approach, seem to be related to the most positive outcomes then coaches can work towards helping their athletes develop an approach orientation if they are aware of what motivates their athletes. Coaches should create an environment for athletes to develop a MAp goal orientation to improve performance. MAp goals have been shown to elicit more positive outcomes such as absorption during task engagement and intrinsic motivation (Elliot, 1999; Elliot & Harakiewicz, 1996). Individuals who adopt MAp goals interpret competition as an opportunity for personal growth and may experience greater self-esteem and positive affect (Adie, Duda, & Ntoumanis, 2010). Similarly, consultants can work with the athletes to provide them with the necessary mental training skills to help them achieve their performance goals. Consultants can help athletes achieve an ideal state of mind through relaxation techniques or imagery before their competition to enhance their performance.

FF plays a significant role in the adoption of achievement goals. General FF has been linked to MAv, PAv, and PAp goals (Elliot & McGregor, 1999, 2001). The present study found that FF was linked to avoidance goals as well as cognitive anxiety. Coaches and practitioners can work against athletes adopting an avoidance orientation by creating

the right environment. Perceived pressure from coaches can effect levels of FF, specifically FSE and FUIO (Sagan & Stoeber, 2009). If coaches are aware of the negative effects of avoidance goals and the impact it can have on performance, then they can work with their athletes to help them overcome their fear and anxiety.

Limitations and Recommendations

One important limitation of the current study was the small sample size. With a greater number of participants, stronger relationships may have been found and the results would prove to be more valid and reliable. Another limitation of the current study was using only female athletes for participants. By using a sample comprised of both males and females, future research can aim to fill the gap in the literature regarding gender, anxiety, and achievement goals. The present study also has low generalizability due to the population that was used. The current study only applies to female high school and collegiate runners. By including athletes from other sports, the results can be applied to other populations.

Future research studies investigating the role of fear of failure in competitive anxiety may want to consider expanding the sample to include both males and females. It would be interesting to see if achievement goals mediated the relationship between fear of failure and anxiety in males as well. When compared to males, Abrahamsen, Roberts, and Pensgaard (2008) found that female elite athletes reported higher levels of performance worry, concentration disruption, and levels of somatic anxiety. However, the goal orientations did not predict pre-competitive anxiety for either gender. Including samples from other endurance sports such as cycling and swimming would help increase the sample size and allow researchers to make inferences into other athletic populations

and improve generalizability. Expanding the participant pool outside of college athletic populations may be useful in the future. Using club or elite levels of athletics might reveal differences in fear of failure and the relationships with pre-competitive anxiety.

Future studies may also want to include an assessment to investigate the impact of the coach on FF and achievement goals. Consultants and practitioners could also implement a psychological skills intervention to see if cognitive anxiety and fear of failure scores decrease over time. In a study with elite tennis players, investigators conducted a season long mental training program which included goal setting, positive thinking and self-talk, concentration and routines, arousal regulation techniques, and imagery (Mamassis & Doganis, 2004). Results showed an increase in the direction dimension of somatic anxiety, cognitive anxiety and self-confidence. The intensity of self-confidence, as well as the overall tennis performance, were greater for all the participants of the intervention group after the mental training program.

Further analysis testing FF and achievement goals across several different time points may be able to shed some light on this issue. This would require a season long or longitudinal design. Implementing a longitudinal design would allow researchers to monitor other variables such as performance expectations and performance results to get a clearer picture of how all of the variables interact. A longitudinal design could also be used to see if achievement goals changed over time based on competitive standards and performance expectations.

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APPENDIX A

Informed Consent

Title of Project: Psychological Skills Assessment and Training Program

Principle Investigator: Miranda Kaye, Ph.D.
321 Center for Health Sciences, Ithaca, NY 14850
(607) 274-1338, mkaye@ithaca.edu

Purpose of the study: The purpose of this study is to enhance the psychological skills of Ithaca High School cross country athletes through a mental skills training program.

Benefits: Benefits of participation include decreased anxiety and enhanced performance.

Procedures to be Followed: You will be asked to complete a series of questionnaires and journal entries asking about your mental states before performance. In addition you will receive weekly mental skills training sessions.

Discomfort or risks: There are no risks to participating in this study. It is possible that you may experience some slight discomfort reflecting your pre-performance states.

Right to Ask Questions: Please contact Dr. Kaye (607-274-1338, mkaye@ithaca.edu) with questions or concerns about this study.

Voluntary Participation: Participation is voluntary. You can withdraw from the study at any time by notifying the principal investigator without penalty. You can decline to answer specific questions.

Statement of Confidentiality: Your participation in this research is confidential. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses.

Your signature below indicates that you have received a copy of this consent form for your records. Your signature below also indicates that you consent to participate in this study.

"I have read the above and I understand its contents and I agree to participate in the study."

_____

Participant Signature

“I have read the above and I understand its contents and I agree that my son/daughter may participate in the study.”

_____

Parent Signature